

Report of Curator, Zoological Department.

SIR,—My Report for to-day records the donations received during the last four months, which are as follow:—

1. From A. Campbell, Esq. Darjiling. Skin, in winter *pelage*, with fine horns and hoofs complete, of the great Asiatic Stag, which I feel satisfied is the *CERVUS WALLICHII*, Duvaucel. This noble animal is the Tibetan *C. affinis* of Mr. Hodgson, and there is scarcely a doubt of its identity with the Stag of Kashmir (*C. cashmirensis*, Falconer, *MS.*, apud Gray), and little that it will prove to be the same as that of northern China, and as the *Irbisch* or great Stag of Siberia mentioned by Strahlenberg and Pennant.* It may possibly also be the Persian *Maral*; though our impression is that the latter is more nearly affined to *C. ELAPHUS*, as the present species is to *C. CANADENSIS* (v. *strongyloceros, occidentalis, &c.*)† It, however, is a distinct species from *C. CANADENSIS*; and most decidedly it is that well figured in Mons. F. Cuvier's work by the name *C. WALLICHII*, approximated by me to *C. CANADENSIS* in *J. A. S. X*, 745. In Mr. Vigne's portfolio of drawings made in Kashmir and Little Tibet, was a careful figure of this animal in its summer *pelage*, taken from a captive individual in Kashmir; and this was bright rufous, like the

* "Stags are totally extirpated in Russia, but abound in the mountainous southern tract of Siberia, where they grow to a size far superior to what is known in Europe. The height of a grown hind is four feet nine inches and a half, its length eight feet, and that of its head one foot eight inches and a half." Pennant's 'Arctic Zoology,' p. 31. Strahlenberg distinguishes the *Irbisch*, or great Stag, from the *Isubrissen*, or common Stag, of Siberia. Like *EQUUS HEMIONUS*, *OVIS AMMON*, and other species, it doubtless ranges from Southern Siberia to Tibet, &c.

† Since the above was in print, we have seen Mr. Gray's paper on the *CERVIDÆ*, read before the Zoological Society and re-published from its 'Proceedings' in *Ann. Mag. N. H.*, 2d series, IX, 413, (May, 1852). We see nought in it to modify our opinion regarding *CERVUS WALLICHII*. Mr. Gray may rest assured that there is no cis-Himalayan (or sál-forest) stag of the Elaphine type (vide also Hodgson, in *J. A. S. XX*, 392): and when he refers to *C. WALLICHII* as "the Stag of India," he uses the term *India* in a most vague and latitudinarian sense, which cannot be conceded; it is little better when he refers even to *C. FRONTATIS* as an *Indian* animal. Mr. Gray pronounces the Persian *Maral* to be identical with *C. WALLICHII*. We only saw a living mature hind, and a young stag of the third (?) year,—an antler of which is figured in *J. A. S. X*, 750, pl. fig. 10. In size and colour the *Maral* would certainly seem to accord sufficiently with *C. WALLICHII*; and Mr. Gray is probably right in identifying them, however remarkable the range of climate, which indeed is considerable also, with *C. CANADENSIS* and even *C. ELAPHUS*.

corresponding garb of the Wapiti, and of many other species of Deer (*e. g.* *C. DUVAUCELEI* of India): but the winter dress of the great Asiatic Stag is strikingly different from that of the Wapiti or great Stag of N. America—which has the upper parts very much paler, contrasting with darker limbs and belly. I cannot trace, also, the least appearance of the throat-beard conspicuous in an old male Wapiti; the tines of the antlers, I think, are shorter than is usual in that species; and there seems no tendency to the formation, in any specimen yet observed, of a small additional snag near the inner base of the first basal tine (or ‘brow-antler’), which in large Wapiti horns is of frequent occurrence (Vide X, 750, pl., figs. 3, 5, 6). The horn figured in Vol. XX, p. 393, pl. VIII, I consider to be that of a young *C. WALLICHII*: the peculiarity represented being very common in the horns of *C. ELAPHUS* of corresponding age. The second basal tine (or ‘bez-antler’) is far more constant in *C. CANADENSIS* and *C. WALLICHII* than in *C. ELAPHUS*, which last very commonly wants it (especially when young), as *constantly* in *C. BARBARUS*; the horn of which latter species, again, is precisely that of *C. DAMA* (or the Fallow Deer), but with a true elaphine bifid or trifid crown instead of the palmation.* The whole of these, with the less affined (but mutually allied) *TARANDUS* and (extinct) *MEGACEROS*, constitute a series of forms wholly distinct from all other Deer, whether of America, S. E. Asia, or the Roes of Europe and N. Asia, which last have most affinity for American types. The possession of the median tine (or ‘royal antler’) is a characteristic distinction of this entire great Elaphine series as here indicated (with rare individual exceptions), being met with in no other Deer; and these animals are also conspicuously longer-bodied than other Deer, and have a different and distinct carriage. My impression is,—having seen several fine living examples of *C. CANADENSIS*, having studied them attentively at all seasons, and

* In what does *C. BARBARUS* differ from the Corsican Stag figured by Buffon, and from the Stag of Greece (original *Ελαφος*), which I am informed is similar and distinct from *C. ELAPHUS* of modern zoologists? I have several careful figures of the Barbary Stag, male and female, drawn from first-rate specimens in the Zoological Society’s Garden. The species is further remarkable for the comparative shortness of the limbs, and the enormously tumid larynx of the male during the rutting season. The stag of the Appenines is true *C. ELAPHUS*.

superintended the execution of sundry drawings that were taken of them with extreme care and the minutest attention to detail, whereby I happen to be particularly familiar with the character of the species,—that this great American Stag will be found to average a larger size than the Asian *C. WALLICHII*, if not to be constantly larger. They are, however, most closely affined, even more so than *OVIS AMMON* and *O. MONTANA*.

2. From Mr. A. Hancock, of Newcastle-upon-Tyne, I have received a collection of sundries, of which I make over to the museum skins of *MELES TAXUS*, *NOCTULINIA NOCTULA* (2.), *TINNUNCULUS ÆSALON* (2.), *EUDROMIA MORINELLUS* (young), *TOTANUS GLOTTIS* (2., British specimens *perfectly identical* with the Indian *glottoides* of Vigers), *LARUS MARINUS* (adult), *OIDEMIA FUSCA* (male), and *PODICEPS CORNUTUS* (crested). Also a series of antlers (not fine) of *CERVUS ELAPHUS*, and two fine frontlets of *C. CAPREOLUS*; with examples in spirit of British Vipers, Frogs, and a few Insects. I further present the Society with the following specimens from Darjiling.—Skins respectively of *LASIURUS PEARSONII*, Horsfield (*J. A. S. XX, 524*),* *TALPA MICROURA*, *HYSTRIX HODGSONII*, *AQUILA IMPERIALIS* (in uniformly brown plumage), *TCHITREA PARADISI* (fine parti-coloured male, killed in L. Bengal), *SITTA CASTANEOVENTRIS*, and the young of *ATHENE BRAMA*, *PSILORHINUS FLAVIROSTRIS*, *CORACIAS INDICA*, and *PARUS CINEREUS*. Also the carcass of an adult male *ARCTONYX COLLARIS*, both skin and skeleton of which have been prepared,—and a female *MELANOCORYPHA TORQUATA*, nobis, *J. A. S. XIII, 962, XVI, 476*.

3. From the Rev. F. Fitzgerald, a collection of mammalia, birds, reptiles, &c., from N. Carolina.

Of Mammalia are sent *FELIS RUFA*, Guld.; a skull; *MUSTELA FUSCA*, Bachman, 2 skins; *PROCYON LOTOR*, (L.), skull; *SCALOPS AQUATICUS*, (L.), in spirit; *SCIUROPTERA VOLUCELLA*, (L.), skeleton; *SCIURUS LEUCOTIS*, Gappar (v. *cinereus*, Harlan, et *carolinensis*, Godman), skin; and *MUS MUSCULUS*, L., two skins.

Of Birds, skins of *TINNUNCULUS SPARVERIUS*, fœm.; *BUTEO BOREALIS*, juv.; *BUBO VIRGINIANUS*, mas; *CERYLE ALCYON*, mas; *DRYOCOPUS PILEATUS*, fœm., and skull of male; *PICUS PUBESCENS*, mas; *COCCYZUS ERYTHROPHALMOS*; *CYANURUS CYANEUS*; *QUIS-*

* *Noctulinia lasiura*, Hodgson, *J. A. S. XVI, 896*.

CALUS PURPUREUS (2); AGLAIUS PHŒNICEUS (2); STURNELLA LUDOVICIANA; SPIZELLA PUSILLA; PASSERCULUS SAVANUS (2); CHRYSOMITRIS TRISTIS; CARDINALIS VIRGINIANUS (2); AMPELIS CAROLINENSIS; PROGNE PURPUREA, f.; TYRANNUS CRINITUS; SIALIA WILSONII; MERULA MIGRATORIA; MIMUS RUFUS; TRICHAS MARILANDICA; BUTORIDES VIRESCENS, juv.; CLANGULA GLAUCION, f.; MERGUS SERRATOR, f.;—with skull of NUMENIUS LONGIROSTRIS, and foot of HALIAËTUS LEUCOCEPHALUS.

Of Reptiles, EMYS GUTTATA (shell); STERNOTHERES ODORATUS (3 young, in spirit); CHELYDRA SERPENTINA (shell);—and all the following in spirit—PLESTIODON LATICEPS, PL. FASCIATUS (2); ANOLIUS PRINCIPALIS (2); COLUBER CONSTRICTOR; C. (?)—?; TROPIDONOTUS SIPEDON, (L.) Dekay (*Tr. fasciatus*, Schlegel, adult and young); TR. TÆNIA, Schœpff. (*Col. sertalis?*, L., three specimens): TR. SAURITA, (L.), Schlegel (young; and also young of two other species); HERPETODRYAS GETULUS (L.); H. ÆSTIVUS, (L.), Schlegel (2); H. —? (2); HETERODON COCCINEUS (*Rhinostoma coccinea*, Holbrook); TRIGONOCEPHALUS CONTORTRIX, (L. 2); CROTALUS DURISSUS; RANA PIPIËNS (?), large tadpole; POLYPEDATES (*Hyla viridis* of Holbrook); P. —?; TRITON MULTIPUNCTATA; TR. NIGER (?); another affined to TR. SALMONEA; and large and small individuals of AMPHIUMA MEANS, Harlan.*

CRUSTACEA. HOMARUS AMERICANUS and ASTACUS BARTONI in spirit. Also a few insects and a SCOLOPENDRA in spirit.

4. From Dr. Kelaart, of the Ceylon Medical Service, several packages have been received, which have greatly enriched our collections.

Of mammalia, we are indebted to him for skins, skulls, &c. of PRESBYTIS PRIAMUS, and skins of PR. URSINUS (*J. A. S. XX*, 155), young, and skin of PR. CEPHALOPTERUS, almost white (*Pr. albinus*, Kelaart, *J. A. S. XX*, 182); LEMUR CATTA, L.; and numerous specimens of Bats, as follow:—

* Certain of the snakes in this collection would appear to be undescribed, for we have been unable to make them out from M. Schlegel's work, and they are neither noticed in Dr. Harlan's "catalogue of North American Reptiliæ," published in the "Journal of the Philadelphia Academy," Vol. V., nor among the "extralimitals" enumerated in Dekay's "Natural History of New York."

PTEROPUS EDULIS, v. *Edwardsii*, &c.

PT. LESCHENAULTII, DESM., v. *Pt. seminudus*, Kelaart. A fine pair in spirit, a skin, and specimen now prepared as a skeleton.

CYNOPTERUS MARGINATUS, (B. Ham.) Some ordinary brown examples in spirit, and a skin with the neck and sides of a very deep ferruginous hue, in which phase this species is the *C. Horsfieldii* of Mr. Gray. In old Bengal specimens, the same parts become deeply tinged with bright tawney or rufo-fulvous, but are never dark ferruginous, so far as we have seen.* Malayan examples are of a paler and more uniform brown, and constitute the *C. titthœcheilus*, (Tem.), &c. &c.; † exhibiting no further difference whatever that we can perceive, notwithstanding the remarks of Dr. Horsfield in his recently published catalogue of the specimens of mammalia in the Hon'ble Company's Museum in London.

NYCTICEJUS TEMMINCKII, (Horsfield, nec Rüppell, *Atlas*), v. *Belangeri*, *castanea*, et *noctulinia*, auct. Two specimens, one paler than the other on the upper parts. By exposure to the light, the fur of this species fades and becomes much more rufous or rufo-fulvous; and in all Indian specimens that we have seen, the under-parts are constantly much paler than the upper: but in one Javanese example in the Society's collection, the upper-parts are of a much more vivid tawny-rufous or ferruginous colour than we have seen in any Indian specimen, and the under-parts are scarcely fainter in hue. We consider this to be a casual variety only, analogous to those of certain Horse-shoe and various other Bats mentioned in the sequel. ‡ *N. B.* Although in the recent state, this very common Indian species is most easy to distinguish from *N. LUTEUS*, nobis (*J. A. S.* XX, 157), from the considerable difference of colour, however either may vary, they both fade and alter so much in colour by exposure to light that they then appear like larger and smaller races of the same species,—the under-parts of *M. LUTEUS*, however, becoming generally of a more

* Since writing the above, we have obtained a fresh Calcutta specimen, which at first was very nearly as deeply tinged with ferruginous as the example from Ceylon; but, in drying, the colour has faded very considerably.

† Vide *J. A. S.* XV, 187.

‡ A similar Javanese specimen is noted in Mr. Gray's Catalogue of the specimens of mammalia in the British Museum.

rufescent hue than those of ordinary N. TEMMINCKII. The length of fore-arm in N. TEMMINCKII is very regularly 2 in., in N. LUTEUS $2\frac{3}{8}$ in., and in N. HEATHII $2\frac{3}{4}$ in. Examples of N. HEATHII from Ceylon appear to be constantly a good deal darker than those from S. India, unless perhaps from the more proximate districts of the continent.

SCOTOPHILUS COROMANDELIANUS, (F. Cuv.)

VESPERTILIO ADVERSUS (?), Horsf. Rather darker than a Calcutta specimen referred to the same, which latter entirely resembles an example procured at Penang.

KERIVOULA PICTA, (Pallas).

MEGADERMA SPASMA, Geoffroy. A skin and entire specimen in spirit. Identical in species with examples from Malacca and Java.

RHINOLOPHUS AFFINIS (?), Horsfield: *Rh. rubidus* et *fulvidus*, Kelaart, as also another supposed species referred to by the same gentleman in *J. A. S.* XX, 182-3; perhaps, too, the doubtfully cited *Rh. pusillus* from Ceylon of Mr. Waterhouse's catalogue of the mammalia in the Zoological Society's museum: but, it would seem, not RH. AFFINIS of Dr. Cantor's Catalogue of the mammalia inhabiting the Malayan peninsula (*J. A. S.* XV, 181). An extensive series of specimens, both in spirit and skins; and varying in hue from the most vivid rufo-ferruginous in both sexes, to dusky-brown paler below and without a shade of ferruginous or fulvous in either sex,—others again being intermediate,—and one adolescent example is dingy cinereous above, with here and there a slight admixture of rufous, and below chiefly of the latter hue. In structure there is no diversity whatever, and those of various colours were taken in company. The admeasurements of a full grown male are as follow. Length of head and body $2\frac{1}{4}$ in.; of tail (additional) 1 in.; alar expanse $10\frac{1}{2}$ in.; fore-arm $1\frac{7}{8}$ in.; tibia $\frac{7}{8}$ in.; ear-conch (posteriorly) barely $\frac{5}{8}$ in. Facial appendages typical. Fur of mean length, somewhat dense, porrect, sinuous. A minute pair of upper incisors, liable to be overlooked, in the fresh specimen.

HIPPOSIDEROS NOBILIS (?), Horsfield: *Rhinolophus armiger*, Hodgson; *H. lankadiva*, Kelaart, vide *J. A. S.* XX, 183. Male and female in spirit; another specimen now set up as a skeleton; and a skin. Decidedly identical in species with Mr. Hodgson's *armiger*, and so far as can be judged from the figures and descriptions, also with the Malayan H. NOBILIS.

H. SPEORIS, (Schneider). Vide *J. A. S.* XIII, 489. Numerous specimens in spirit and also skins. It is remarkable that some examples of this species, also, are very bright rufo-ferruginous or golden-fulvous, others fulvous-brown more or less dark, and others again brown or slaty without a tinge of fulvous,—the ordinary colour (that heretofore described) however predominating, and, in general, it would seem that the brown Ceylon specimens run darker than those of S. India. Moreover, it would seem that the vivid rufous examples both of this and other species are comparatively rare, though from being particularly selected out of multitudes they may accumulate in collections.

H. MURINUS, (Elliot): of which there now can be no further doubt that *Rhinolophus fulgens*, Elliot, v. *H. fulvus*, Gray, is merely the corresponding vivid rufous phase to those noticed of H. SPEORIS and of the RHINOLOPHUS. Four specimens, all of a blackish tint, thus illustrating the *H. ater* of Dr. Templeton, and indicating that in the present species (as in the preceding) Ceylon examples run darker than those of S. India.*

* The observation of these varieties of colour in different Horse-shoe as well as in other genera of Bats shews that colour has been too much regarded in the attempt to discriminate the species of these animals. It is a variation that has long been known in some of the RHINOLOPHI, and M. Geoffroy St. Hilaire was of opinion that the rufous hue becomes more intense in proportion as these animals inhabit nearer the equator. Indeed, this would seem generally to be the case, though the Australian RH. AURANTIACUS of Mr. Gray is stated to rival in the vivid intensity of its colouring the 'Cocks of the rock' (RUPICOLA). Numerous examples of the variation in question may here be conveniently adduced.

RHINOLOPHUS LUCTUS, Tem. (Apparently identical with *Rh. perniger*, Hodgson, inhabiting the S. E. Himalaya and the Khásya hills.) Rufous variety, from Manilla, described by MM. Eydoux and Gervais in the Zoology of the voyage of 'la Favorite.' Perhaps also Mr. Gray's *Rh. morio* from Singapore, the fur described as "reddish brown;" yet in Mr. Gray's catalogue of the specimens of mammalia in the British Museum, he terms this "the Black Horse-shoe Bat," a name suitable enough for ordinary RH. LUCTUS.

RH. MINOR (?), Horsfield. The *Rh. lepidus*, nobis, from Bengal, Masuri, &c., would appear to exemplify the ordinary phase of what we now take to be this species, and *Rh. subbadius*, Hodgson, to represent the rufous phase. At least *Rh. lepidus* and *Rh. subbadius* prove to differ only in colour, and both seem to be referable to RH. MINOR. (Since writing the above, we have observed that Mr. Hodg-

Of *Carnivora*, three species of Mungouste are sent, viz. *MUNGOS VITTICOLLIS*, (Bennet), injured ;—*HERPESTES RUBIGINOSUS*, Kelaart, v. *Ellioti*, nobis, vide *J. A. S.* XX, 162, 184 ;—and *H. FULVESCENS* et *flavidens*, Kelaart, *loc. cit.* Of the two latter, *H. RUBIGINOSUS* is affined to *H. NYULA*, Hodgson, in size and the character of its fur, but the rufous ground-tint predominates, the tail-tip is black and the four paws are blackish ; and *H. FULVESCENS* is similarly affined to *H. GRISEUS*, but is of a much deeper colour, a deep fulvous or tawny predominating, and the coat is more dense, though by no means so full and so developed upon the tail as in *H. FUSCUS*, Waterhouse, of the Nilgiris. The name *flavidens* is objectionable as being quite unfounded,

son assigns his *SUBBADIUS* to *HIPPOSIDEROS* in *J. A. S.* XVI, 896 ; but the specimens which he sent to the Society by that specific name are genuine *RHINOLOPHI.*)

RH. MACROTIS, Hodgson. Of this sub-Himalayan species we have both brown and light rufous examples.

RH. AURANTIACUS, Gray. The description of this Australian species is not at hand ; but we may suggest that it probably is merely a rufous variety of *RH. MEGAPHYLLUS*.

HIPPOSIDEROS DIADEMA, (Geoff.) Vide Cantor, in *J. A. S.* XV, 182.

H. LARVATUS, (Horsfield), the rufous phase,—and *Rhinolophus vulgaris*, Horsf., the dark phase. The Arakan species described under these names in *J. A. S.* XIII, 488, appears on present evidence to be correctly assigned.

Taphozous fulvidus, nobis, *J. A. S.* X, 975, is merely a fulvescent phase of *T. LONGIMANUS*. (*T. brevicaudus*, nobis, also, was founded on a specimen of *T. LONGIMANUS* distorted by the stuffer ; and as *T. crassus*, nobis, proves to be identical with *T. SACCOLAIMUS*, Tem., v. *pulcher*, Elliot, and as we further are not now satisfied of the distinctness of *T. Cantori*, nobis, from *T. LONGIMANUS*, the Indian *TAPHOZOI* would accordingly be reduced to *T. SACCOLAIMUS*, Tem., *T. MELANOPOGON*, Tem., and *T. LONGIMANUS*, (Hardwicke),—all three inhabiting the peninsula of India as well as the countries to the E. and S. E.

NYCTICEJUS TEMMINCKII, (Horsf.), exhibits occasionally an uniform bright tawney-rufous phase of colouring (in the Malay countries only, so far as observed), which has already been remarked in the text.

NYCTICEJUS (small undetermined species, common about Calcutta). The writer once shot a specimen, now in the Society's museum, with patches of bright golden-fulvous on the lower-parts.

CYNOPTERUS MARGINATUS, (B. Ham). Vide text.

Analogous variations occur in sundry birds, which exhibit an occasional rufous or tawney phase of colouring ; e. g. various *CUCULI*,—certain Owls (especially the small Indian *SCOPS*, of which the grey phase was named *Sc. pennata* and the

and we therefore substitute for it the other appellation by which it has also been described.*

LUTRA NAIR, F. Cuv. Specimen procured at an elevation of 4,500 ft., near Newera Elia.

URSUS LABIATUS. Skull of an old female.

SOREX. Two species of typical Shrew, one the S. FERRUGINEUS,

rufous phase *Sc. sunia* by Mr. Hodgson),—some of the Asiatic PODARGI (v. *Batrachostomi*), vide *J. A. S.* XVIII, 806, &c.

* The determination of the above species of Mungouste necessitated a more elaborate study of the various Indian species of the group than we had previously the opportunity of bestowing; and the following are the results arrived at, from the series of specimens now in the Society's museum, among which we discriminate the following:—

1. URVA CANCRIVORA, Hodgson. Hab. Nepal; Arakan; Afghanistan (Griffith).

2. MUNGOS VITICOLLIS, (Bennet). Hab. Malabar; Ceylon. (*N. B.* Barely separable, generically, from the last, although the bony orbital rings are complete in adults—as in the following species, with the exception of *H. BRACHYURUS* which is about equally worthy of separation. The black lateral neck-band in the present species is represented by a white one in the preceding).

3. HERPESTES RUBIGINOSUS, Kelaart; *H. Ellioti*, nobis. Hab. S. India; Ceylon.

4. *M. MALACCENSIS* (?), Fischer: *H. nyula*, Hodgson: *H. griseus* apud nos, passim. Hab. Bengal; Nepal; Arakan? Malayan peninsula? We possess a fine mounted albino of this species, referred to *H. GRISEUS* in *J. A. S.* XV, 250.

5. *H. GRISEUS*, (Geoffroy). *Viverra mungo*, L., et *H. pallidus*, Schinz, apud Horsfield. Hab. Hindustan; S. India; Ceylon? *N. B.* Resembles the last in size and form, and *H. NIPALENSIS* in the character of its fur.

6. *H. FULVESCENS*, v. *flavidens*, Kelaart. Hab. Ceylon; S. India?

7. *H. NIPALENSIS* et *europunctatus*, Hodgson. Hab. Bengal; Upper India generally; Sindh; Afghanistan; Malayan peninsula (Cantor). *N. B.* Varies much in general cast of colour, ashy or fulvous prevailing, some also being very pale, others dark.

8. *H. JAVANICUS*, (Geoff.) Hab. Malayan peninsula and archipelago, ascending northward to Chittagong. *N. B.* Does not seem to differ from the last except in colour.

9. *H. FUSCUS*, Waterhouse. Hab. Nilgiris.

10. *H.* (?) *BRACHYURUS*, Gray. Hab. Malayan peninsula. *Remark.* The only two species of Mungouste inhabiting Bengal are *H. MALACCENSIS*? (*nyula*) and *H. NIPALENSIS*.

Kelaart, *J. A. S.* XX, 185,* (perhaps *S. niger*, Elliot, of Horsfield's Catalogue?): the other sent as the "large godown Shrew of Kandy," and according pretty well with Schinz's description of *S. SERPENTARIUS*, Belanger. Length of head and body about $4\frac{3}{4}$ in.; tail $2\frac{1}{8}$ in.; tarse to end of claws $\frac{1}{16}$ in.; skull $1\frac{3}{16}$ in. Colour dusky slate, with rufescent tips to the fur of the upper-parts; beneath the fur is shorter and more appressed, and somewhat paler, with a faint tinge of rufous about the breast. Not improbably undescribed, and quite distinct from the two other Ceylon Shrews described *J. A. S.* XX, 163.

SCIURUS. Of this genus, Dr. Kelaart has only sent a fragment of the skin of a young *SC. MACROURUS*, Forster (var. of a ruddy-white or whitish-isabelline colour); and, on loan, a skin of the rufous-capped Striped Squirrel, *SC. KELAARTI*, Layard (vide note to *J. A. S.* XX, 166), remarkable for having its three pale dorsal stripes unusually clear whitish, the five dark stripes unusually blackish and strongly contrasting, the medial whitish stripe narrow and the lateral broad, and the crown but faintly tinged with fulvous. Neither this nor *SC. BRODIEI* are very satisfactorily distinguished from *SC. TRISTRIATUS*, of which they seem to be local varieties merely; all retaining the deep rufous tinge under the tail by which they may be at once distinguished from *SC. PALMARUM*, and it remains to ascertain whether the *voice* severally differs, as is so remarkably exemplified by *SC. PALMARUM* and *SC. TRISTRIATUS*.†

The *MURIDÆ* sent are—*GERBILLUS INDICUS*, skin and examples in spirit,—*MUS INDICUS*, Geoffroy, in spirit,—*M. FLAVESCENS*, Gray,

* Of two specimens of this Shrew sent formerly by Dr. Kelaart, one was labelled *S. MONTANUS* by mistake, and we thus came to describe both by the name *MONTANUS* in *J. A. S.* XX, 163, dropping the name *FERRUGINEUS* by which Dr. Kelaart has since described the same species in XX, 185. He now writes word that he agrees in considering the two specimens referred to as being of one species, his *S. FERRUGINEUS*; whilst his *S. MONTANUS* has never been sent here at all, his only specimen having been forwarded to Dr. Andrew Smith in England.

† In a communication just received from Mr. Layard, it seems that he also is now of opinion that *SC. BRODIEI* and *SC. KELAARTI* may be varieties of *SC. TRISTRIATUS*; but in *Ann. Mag. N. H.*, 1852, p. 335, he states of *SC. BRODIEI* that its *voice* is far more shrill than that of *SC. TRISTRIATUS*; and also of *SC. LAYARDI*, nobis, that—"I shot it in dense jungle, being attracted to it by the *voice*:" but the last is undoubtedly a strongly marked distinct species.

and its var. *kandianus*, Kelaart, *J. A. S.* XX, 169, several specimens in spirit, confirming the opinion expressed *loc. cit.* of the non-distinctness of this as a species from *M. FLAVESCENS*,—*M. NEMORALIS* (?), nobis; adolescent? (this is sent as “the common house Rat of Trincomali and Batticoloo; I never,” adds Dr. Kelaart, “saw it elsewhere”): *M. MUSCULUS*, L., from Kandy, skin, and specimen in spirit (the first instance we have seen of the common European house Mouse from any part of Asia, though of course it must be continually brought by the shipping),—and, lastly,—

MUS FULVIDIVENTRIS, nobis, *n. s.* A field Mouse from Trincomali, affined to *M. TERRICOLOR*, nobis, *J. A. S.* XX, 172, and to another we have since discovered in the neighbourhood of Calcutta.* Length probably about $2\frac{3}{4}$ in.; tail (vertebræ) $2\frac{1}{2}$ in.; tarse to tip of claws $\frac{5}{8}$ in. Colour of *M. SYLVATICUS* above, the fur shorter and less fine, and straight (as in its various Indian affines); lower-parts rufescent or isabelline, or they may be described as pale weak ferruginous. Twenty caudal vertebræ distinguishable with $\frac{1}{4}$ in. additional of tail-tip.

HYSTRIX HIRSUTIROSTRIS, Brandt: *H. leucurus*, Sykes; *H. zeylonensis*, nobis (the young). Skins and skulls.

SUS—? Three skulls of wild Boars of different ages from Trincomali do not present the peculiarities of form of the skull sent by Mr. Layard, upon which is founded the *SUS ZEYLONENSIS*, nobis, *J. A. S.* XX, 173; but are nearly affined to the continental race with narrow occiput, this part, however, being rather less narrow than in the Indian specimen described *loc. cit.*

MANIS PENTADACTYLA, L.: *M. brachyura*, Erxl., &c. The skin of a full grown specimen, establishing this species as an inhabitant of the island.

Of Birds, the most remarkable is a new species of *CIRCAËTUS* or *HÆMATORNIS*, Vigors, forwarded also by Mr. Layard.

H. SPILOGASTER, nobis, *n. s.* Rather smaller than *H. CHEELA*, (Lath., v. *undulatus*, Vigors), and remarkable for having the under-parts as in the adult of that species, while the upper-parts, throat and

* *M. ALBIDIVENTRIS*, nobis, *n. s.* Resembles *M. TERRICOLOR*, nobis, except in being much larger, and generally greyer or less fulvescent. Length of a large male (fresh) $6\frac{1}{4}$ in., of which the tail is $2\frac{3}{4}$ in.; tarse to tip of claws $\frac{1}{16}$ in.; ear (from anterior base) $\frac{9}{16}$ in.

tail, retain in the adult the same colouring as that of the young of *H. CHEELA*; a phase of plumage which we have never seen among the multitude of Bengal specimens of *H. CHEELA* examined, but which is exhibited in the two now received from different parts of Ceylon. A figure of a third specimen is given in a collection of zoological drawings from Ceylon forwarded on inspection by Mr. J. A. Moorgaart. In this the irides are represented *pure white* (as in *POLIORNIS TEESA*), whereas those of *H. CHEELA* are *brilliant golden-yellow*.

SPIZAËTUS LIMNAËTUS, (Horsf.), var. *CIRRHATUS* et *cristatellus*, auct., of peninsular India generally. Specimen rather small.

BUCEROS PICA, Scopoli. The common Pied Hornbill of Ceylon; sent also by Mr. Layard. Identical with Indian specimens: and we therefore consider *B. violaceus*, Shaw, apud Wagler (with four black medial tail-feathers) to be merely a casual or occasional variety, more especially as we have seen continental examples with the sub-medial rectrices partly black.

B. GINGALENSIS, Shaw. Head of male.

CUCULUS SONNERATII, Latham.

MALACOCEREUS GRISEUS, (Lath.), var. Resembling the species of S. India, excepting that the head is concolorous with the rest of the upper-parts.

GRAUCULUS JAVENSIS (? Horsfield). Sent also by Mr. Layard. Differs from *GR. MACEI* of continental India in its considerably smaller size, the wing measuring but $5\frac{1}{2}$ in., with the rest in proportion.

GALLUS STANLEYI, Gray. A fine hen. We had previously only a pullet of this sex.

DROMAS ARDEOLA, Payk., in immature plumage. An extremely interesting specimen, as distinctly indicating the affinities of this (as hitherto considered) anomalous and isolated genus. The plumage is precisely that of a young Tern: and from all the details of outward structure, it will be seen that this curious form is but an extraordinary modification of the Tern type, just as *PHENICOPTERUS* is a most singular modification of the type of *ANSERINÆ*. But the Gulls and Terns, or *LARIDÆ*, are more nearly affined in their whole organization*

* Also by the number and colouring of the eggs, character of the chick, and by

to the great series of CHARADRIADÆ and SCOLOPACIDÆ, auct., than they are to the true PALMIPEDES; and indeed approximate the CHARADRIADÆ, &c., much more than the latter do to either the ARDEIDÆ or RALLIDÆ: and therefore they claim to rank rather among the GRALLATORES than among the NATATORES, though the genus DROMAS alone assumes the characteristic proportions of an ordinary wader. It will be remarked that the habits of DROMAS are entirely those of a sea-side Tern: and an egg formerly sent by Mr. Layard as most probably appertaining to this species (and it could not well have belonged to aught else) is further confirmatory of the view here taken of the position of this remarkable genus in the natural system.*

PORZANA ZEYLANICA, (Gm.) Differs from a specimen from Gumsur in the deep rufous colour being more developed at the base of the nape, and also margining the scapularies, wing-coverts, and longest tail-coverts, where no trace of it is perceptible in the Gumsur specimen. The latter would seem to be of a distinct variety, if not closely affined species.

A few other specimens in this class require no special notice.

Of Reptiles, Dr. Kelaart has forwarded—

TESTUDINATA. EMYS SEBA, Gray (sent also by Mr. Layard),—and EMYDA PUNCTATA, Gray (v. *Cryptopus granosus*, Dumeril and Bibron).

SAURIA. CROCODILUS PALUSTRIS, LESSON;—MONITOR DRACÆNA, (L.), Gray (v. *Varanus bengalensis*, D. and B.); †—HEMIDACTYLUS FRÆNATUS, Schl.; H. COCTÆI, D. and B. (common in Bengal, but not hitherto observed in S. India); H. LESCHENAUThII, D. and B.;—LYRIOCEPHALUS SCUTATUS, (L.), 5 adults; CALOTES OPHIOMACHUS, (Merrem); C. VERSICOLOR, (Daud.):—C. ROUXI (?), Dumeril and Bibron, and C. MYSTACEUS, Dumeril and Bibron, were sent formerly by Mr. Layard.

the seasonal changes of colouring of the genus HYDROCHELIDON in particular: by the voice likewise; and by their haunts and general habits.

* In PODICA and HELIORNIS we recognise the converse modification, in a Rallidous genus presenting the proportions of an ordinary swimmer. N. B. It should be remarked that we perceive little affinity between the true LARIDÆ and the PROCELLARIDÆ (or Albatrosses and Petrels).

† V. BIBRONI, nobis, J. A. S. XI, 869, we now consider to be a variety merely of this species, which appears to be the only *Varanus* of all peninsular India.

BATRACHIA. *RANA CUTIPORA*, D. and B.; *R. MALABARICA*, auct.; *R. BENGALENSIS*, Gray; *ENGYSTOMA MARMORATUM*; *POLYPEDATES LEUCOMYSTAX*, (Grav.); *P. CRUCIGER*, nobis, *n. s.*; *BUFO MELANOSTICTUS*, Schneider.

CALOTES OPHIOMACHUS. Specifically identical with an example from the Nicobars, noticed *J. A. S. XV, 376* :* but a nearly affined *CALOTES* from Cherra Punji (presented by Mr. Frith) differs in having the head much flatter, the nuchal spines less laterally compressed or widely flattened and more rigid, being scarcely at all expanded on their terminal half, and in having a well marked second sincipital crest above the ear, shewing eight spines, the first three of which are short and the fifth longest : there is also no black stripe through the eye.—
C. PLATYCEPS, nobis, *n. s.*

C. VERSICOLOR. Specimens very strongly mottled, but apparently identical with the extremely common and only species of this genus we know of in Lower Bengal.

C. ROUXI? This species is probably distinct and undescribed ; but as Dr. Kelaart has forwarded a series of Ceylon reptiles to Dr. Andrew Smith in England, we decline naming it at present. Crest of elevated flattened spines much longer than in *C. VERSICOLOR*, continued along the entire back and over the base of tail ; two isolated spines, one before the other, above the ears ; oblique plait of neck, before the shoulders, well marked in adults ; a very slight *fanon*, or indication of one, on the throat ; lateral scales fully twice as large as the abdominal ; longest hind-toe reaching to the ear ; tail $\frac{2}{3}$ of the total length : colour fulvous-green, reddening on the throat of two specimens under examination ; tail (in the faded specimens) chiefly albescent ; radiating dark marks on the eyelids, as in *C. VERSICOLOR*.

C. MYSTACEUS.† Nuchal and dorsal crest diminishing gradually to base of tail ; two separate groups of 3 or 4 spines each above each ear ; lateral scales not much larger than the abdominal ; a very distinct well marked *fanon* in adults ; tail $\frac{2}{3}$ of the total length ; longest

* The supposed *CALOTES MYSTACEUS* of the Nicobars, *loc. cit.*, is a *SALEA* of Mr. Gray, except that the back is crested throughout ; and a very similar species in the museum, save that the throat-skin is lax and forms a sort of *fanon*, was procured, we believe at Mirzapore, by the late Major Wroughton.

† Identical in species with examples since received from Rangoon.

hind-toe reaching to the ear ; colour remarkable, green, with 4 or 5 large red blotches on each side ; the tip of upper lip, border of under lip, and nape, appear to have been blue in adults ; and the border of the lower lip yellow, continued as a broad stripe to the shoulder ; no radiating mark on the eye-lids.

RANA BENGALENSIS, Gray, *Hardw. Ill. Ind. Zool.* In *J. A. S.* XVI, 1016, Dr. Cantor supposes the figure cited to have been perhaps intended for *R. LESCHENAULTII*. It is, however, a common Calcutta species which we had not previously seen from elsewhere, being more affined to *R. MALABARICA*, from which it differs in its much smaller size (never, that we have seen, attaining the magnitude of adult *R. TEMPORARIA*), and much more slender toes which are fully webbed ; the colouring is nearly similar, but it appears never to have the pale dorsal stripe, and the dark markings of the back are generally obsolete ; there are never any distinct dark bands, also, upon the rami of the lower jaw, but the entire throat is *marbled* more or less distinctly. Another common Calcutta species of the same or smaller size (inhabiting also Arakan) is coloured exactly as in *R. MALABARICA* and varies similarly ; but this (*R. ASSIMILIS*, nobis,) has invariably the hind-feet much less webbed, and the long second toe is nearly free for its terminal three phalanges.

POLYPEDATES CRUCIGER, nobis, *n. s.* This fine Tree Frog much resembles *P. LEUCOMYSTAX* in form, but is double the size, with no spots on the body, nor marbling of the posterior surface of the thigh ; but a black line proceeds from each eye obliquely across to the loin on the opposite side, the two crossing each other over the occiput, and there is a small transverse line before and behind respectively, connecting the extremities of the two long diagonal lines ; a black lateral line also from the corner of the eye terminates in a large black spot in some specimens, while in others the whole of these markings are more or less obliterated. Length of head and body $3\frac{1}{4}$ in. ; of hind-limb to extremity of toe 5 in.*

In a collection of zoological drawings from Ceylon, obligingly forwarded for inspection by Mr. J. N. Moogaart (at the request of Dr.

* We have a still finer Tree Frog from the Naga hills, Asám (*P. SMARAGDINUS*, nobis). Length of head and body $3\frac{1}{4}$ in. ; hind-limb $5\frac{1}{4}$ in. Wholly green above, changing in spirit to livid-blue ; under-parts pale.

Kelaart), we further recognise the common *EUPREPIS MULTIFASCIATUS*, (Wagler),—*RANA LESCHENAULTII*, D. and B.,—*ENGYSTOMA MALABARICUM*, Jerdon,—and a fine species of *MEGALOPHRYS*. *CALOTES OPHIOMACHUS* is coloured variously, and the fully adult at the height of the breeding season would appear to be of a deep blackish-green, with the usual transverse narrow white body-stripes, and the head and throat dark crimson.

FISHES. *LETHRINUS*—? Affined to *L. HARAK*, (Forster), and found also at the Sandheads;—*PLATAX OCELLATUS*, C. and V.; *SYNANCEIA BRACHIO*? (fine specimen);—*XYRICHTHYS TÆNIURUS*, Val.; *CANNORHYNCHUS* (*Fistularia*, auct.,) *IMMACULATUS*, (Forster);—*ECHENEIS REMORA* (probably from the Atlantic).

TETRODON ARGENTATUS, nobis, *n. s.* Affined to *T. OBLONGUS*, Bloch. Colour livid brown above, with numerous specks and some larger scattered round spots of a deeper hue; dilatible abdominal skin of a livid or dead white; on the side a broad brilliant silvery stripe from mouth to tail, enclosing the pectoral, and a similar spot before the eye. Irides golden. Length $5\frac{1}{2}$ in.; distance from snout to pectoral $1\frac{5}{8}$ in.; do. to dorsal 3 in.

6. From E. L. Layard, Esq. A collection of sundries from Ceylon. Among them is the skin of a Squirrel, which we consider to be merely a pale variety of *SC. MACROURUS*, with worn and faded fur. Among the birds, we find a second example of *CARPOPHAGA PUSILLA*, nobis, *J. A. S. XVIII*, 816, described from a Nilgiri specimen: and the male and female of what will doubtless prove to be *TRERON POMPADORA*, (Gm.); differing only from *TR. MALABARICA*, Jerdon, in having a broad yellowish-green forehead, no trace of ruddy-orange on the breast of the male, and sullied white lower tail-coverts in both sexes (those of the male *TR. MALABARICA* being constantly of a deep ferruginous hue). The females are similar excepting in the colour of the forehead. Size rather inferior to that of *TR. MALABARICA*, the length of closed wing $5\frac{1}{2}$ in. An *EDOLIUS* is also peculiar, and nearly resembles *E. PARADISEUS* of the Malay countries, but has the frontal crest more developed, though much less so than in the *EDOLII* we have seen from S. India. *BUCEROS PICA*, Scopoli, is also sent as the common Pied Hornbill of the island: and other species of birds worthy of remark are *PIPRISOMA* (*SMICRORNIS*?) *AGILE*,—new to the Ceylon

fauna,—and *DRYMOCATAPHUS FUSCACPILLUS*, nobis, *J. A. S.* XVIII, 815, but which should rather have been classed in *PELLORNEUM*.*

Mr. Layard has further favored us with a most valuable and interesting collection of shells, in all more than 200 species, and we have now to thank him for about 170 species, and fine series of many of them,—land, fresh-water, and marine,—while of others are sent inferior or imperfect examples, for report as to whether we required good specimens of the same, in which case Mr. Layard will forward them and has probably ere this done so. The species presented by him to the Society are from various parts of the world, but a large proportion of them, particularly of the land and fresh-water species, are from Ceylon.†

* In the genus *PELLORNEUM* should likewise be merged *DUMETIA*, nobis, founded on the *Timalia hyperythra*, Franklin, of S. India and Ceylon, *Malacocercus? albogularis*, nobis, *J. A. S.* XVII, 453. There would thus be four ascertained species of *PELLORNIUM*, Sw., all closely affined to *MALACOCERCUS* in form and habits.

† The following species of fishes have also, on different occasions, been presented to the Society by Mr. Layard.

UPENEUS RUSSELLII, C. and V. ;—*Holocentrum orientale*, C. and V. ;—*Platycephalus scaber*, (Bloch) ;—*Gliphisodon rahti*, C. and V. ;—*Chætonodon sebanus*, C. and V. ;—*Ch. LAYARDI*, nobis, *n. s.* ;—*Acanthurus triostegus*, (Bloch) ;—*A. XANTHURUS*, nobis, *n. s.* ;—*Amphacanthus javus*, (L.) ;—*A. SUTOR*, C. and V. ;—*Barbus tor* (? B. Ham.), young ;—*Hemirhamphus georgii*, Val. ;—and *Rhombus triocellatus*, Cuv.

CHÆTONODON LAYARDI, nobis, *n. s.* Affined to *Ch. VAGABUNDUS*, L. General colour (in spirit) golden-brown, with a broad vertical blackish band from occiput to throat passing through the middle of the eyes, bordered behind by a white band of similar breadth, and this by a much narrower dark streak not reaching to the throat ; lips and chin black, separated from the dark ocular band by a white space of the same breadth ; fins whitish, with a single black band crossing the tail,—another extends throughout the soft portion of the anal, and having a strongly defined white border above, and a less defined whitish border below, and the posterior or descending portion of the dorsal has also a similar black band, continued a little over the base of the tail ; longitudinal bands on the sides as in *Ch. VAGABUNDUS*, &c. *D.* $\frac{13}{21}$; *A.* $\frac{3}{19}$; *C.* 17 ; *P.* 15 ; *V.* $\frac{1}{3}$. Length of specimen $2\frac{7}{8}$ in.

ACANTHURUS XANTHURUS, nobis, *n. s.* Affined to *A. XANTHOPTERUS*, Cantor, but deeper in the body, and wholly black with bright golden-yellow tail, and a tinge of the same upon the pectorals. *D.* $\frac{5}{24}$; *A.* $\frac{3}{21}$; *C.* 17 ; *P.* 15 ; *V.* $\frac{1}{3}$. Length of specimen $7\frac{1}{2}$ in.

Two species of Snakes have also been sent by Mr. Layard, viz. *TRIGONOCEPHALUS HYPNALIS*, (Merrem), and *XENODON PURPURASCENS*, var.

7. From Walter Elliot, Esq., Madras C. S., now at Masulipatam. Three specimens of *TUPAIA ELLIOTI*, Waterhouse; the Tupaia of the Coromandel coast. According to Mr. Waterhouse, this animal "is about equal in size to *T. TANA*;" but the examples here noticed do not exceed *T. FERRUGINEA* in size, and are obviously distinct as a species from either of those of the Malay countries.

8. From Babu Rajendra Mallika. The carcass of a small Indian Bear (skull only preserved). Also that of a kid of *TETRACEROS QUADRICORNIS*, and do. *MUNTJACUS VAGINALIS*.

9. From the Barrackpore menagerie. Carcasses of *PRESBYTIS MAURUS*, and of a very fine male Leopard,—both skin and skeleton preserved of the latter.

10. Dr. A. Bedford. Skin of *EURYNORHYNCHUS PYGMÆUS*, procured at the Sandheads.

11. Mrs. E. Woodley. A white Sparrow.

12. Mr. R. Smith. A species of *MANTIS*.

13. Capt. McFarlane, of the barque 'Arrow.' Two specimens of an *OCTOPUS*, "blown or washed on board during a typhoon in the China Sea."

E. BLYTH.

Report of Curator, Zoological Department.

SIR,—My Report for the present meeting records the donations to the Zoological Department of the Society's Museum for the last three months, which are as follow :

1. From C. T. Lushington, Esq. The carcass of a young *GLOBICEPHALUS* (or 'Ca'ing-Whale'), of the species noticed in *J. A. S. XIX*, 426, killed in the Hugly near Serampore. It has been prepared as a stuffed specimen; and of the adult we possess skeletons of both sexes, that of the female having been mounted or put together. Closely affined to the European *GL. DEDUCTOR*, this species differs externally in being wholly of a black colour. Its intermaxillaries are shorter; the teeth fewer and larger, numbering 6 or 7 above and 7 or 8 below on each side; the upper view of the maxillaries differs considerably in contour, being broader and less elongated in the Indian species; and there are other discrepancies which are less marked. *GL. INDICUS*, nobis, *n. s.*

2. From Capt. T. P. Sparkes, Ramri. The left radius, two lumbar and one sacral vertebræ, of an enormous Whale (*BALENOPTERA* ?); and two lumbar vertebræ and the second (?) right rib of a smaller Whale. These Capt. Sparkes supposed to have belonged to one individual, respecting which he contributes the following information. "The Whale was